



Solar Policies and Perspectives

Marc Roper
Vice President, SCHOTT Solar
Member
Solar Energy Industries Association



Introduction to SEIA



- National trade association for solar companies
 - » Members include all solar technologies
 - » Represent over 20,000 people employed by solar
 - » 14 state and regional chapters
- Mission
 - To make solar energy a mainstream and significant energy source by expanding markets, strengthening the industry and educating the public on the benefits of solar energy
- Strategic Objectives
 - » Expand Markets
 - » Strengthen R&D
 - » Remove Market Barriers
 - » Improve Education and Outreach



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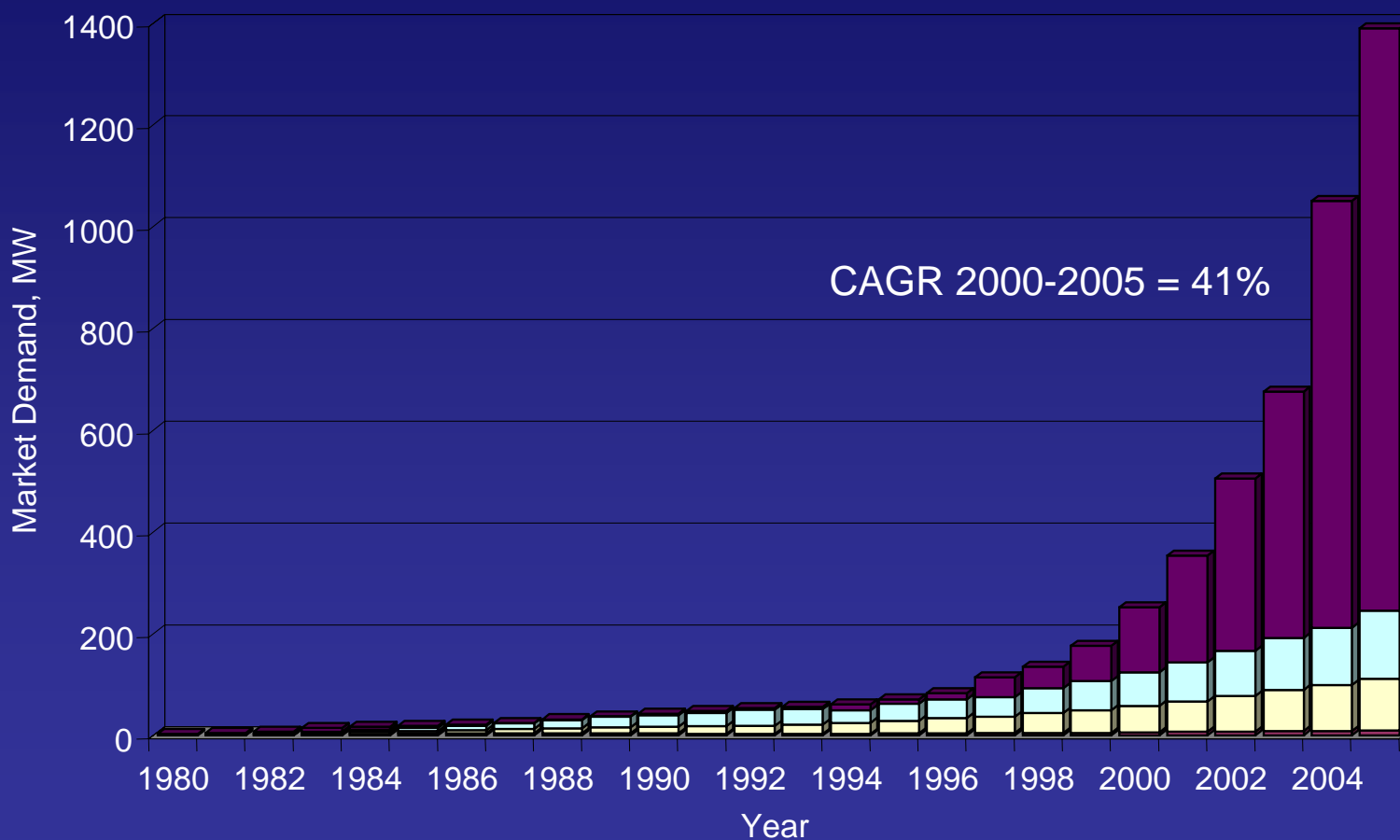
- Solar Market (and Policy)
- US Policy Landscape
- Outlook for the Future





PV Market Growth

PV Market Development by Application Type, 1980-2005



Source: Navigant Consulting

■ Consumer Indoor ■ Industrial ■ Remote Habitation ■ Grid Connected



Policy Drives On-Grid Markets



- Germany feed-in tariff



- Japan rebate program



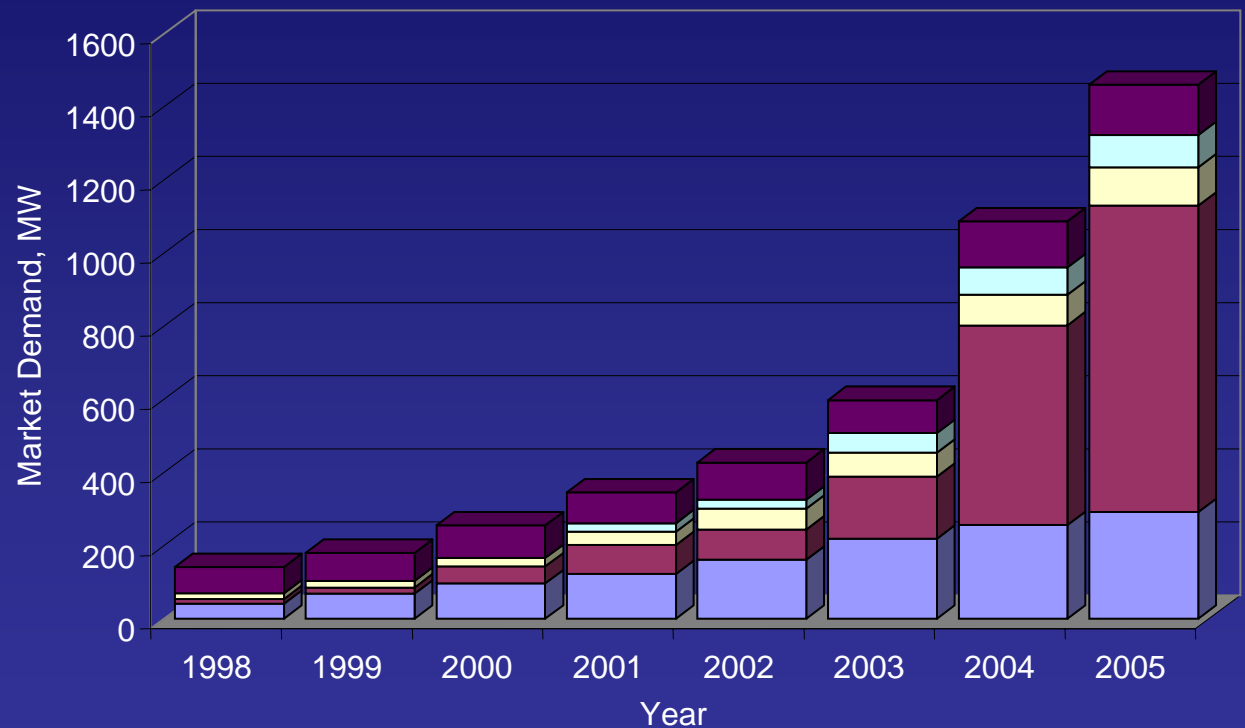
- U.S. mixed incentives



- Spain, Italy emerging



Global PV Market by Geography, 1998-2005

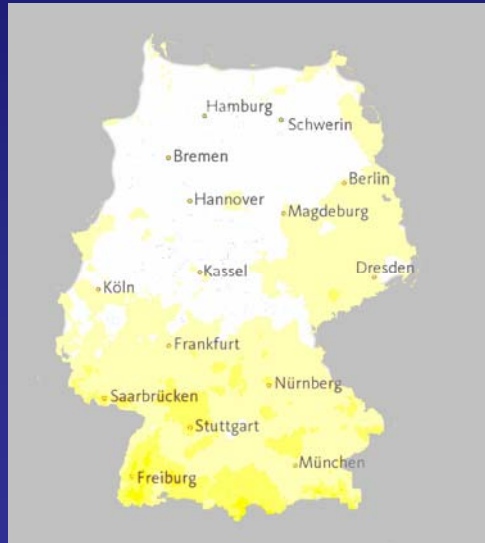


Source: SolarBuzz

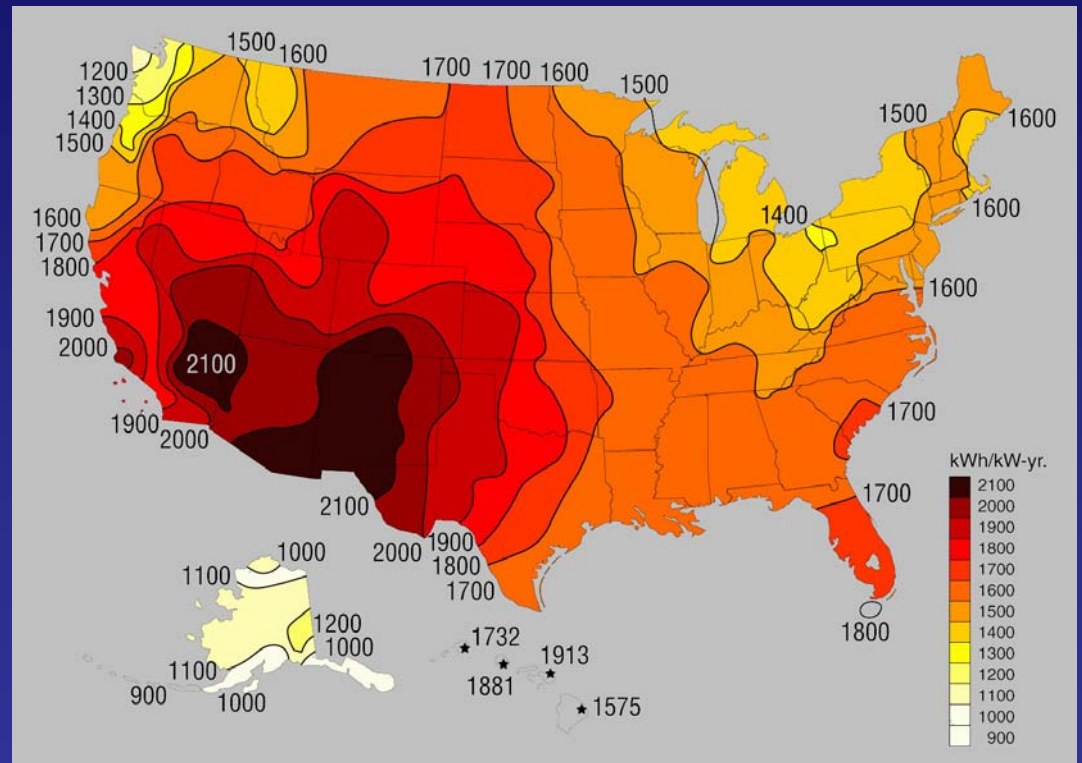
Japan Germany USA ROE ROW



...Not Solar Resources



Incentive \$0.48-70 kWh



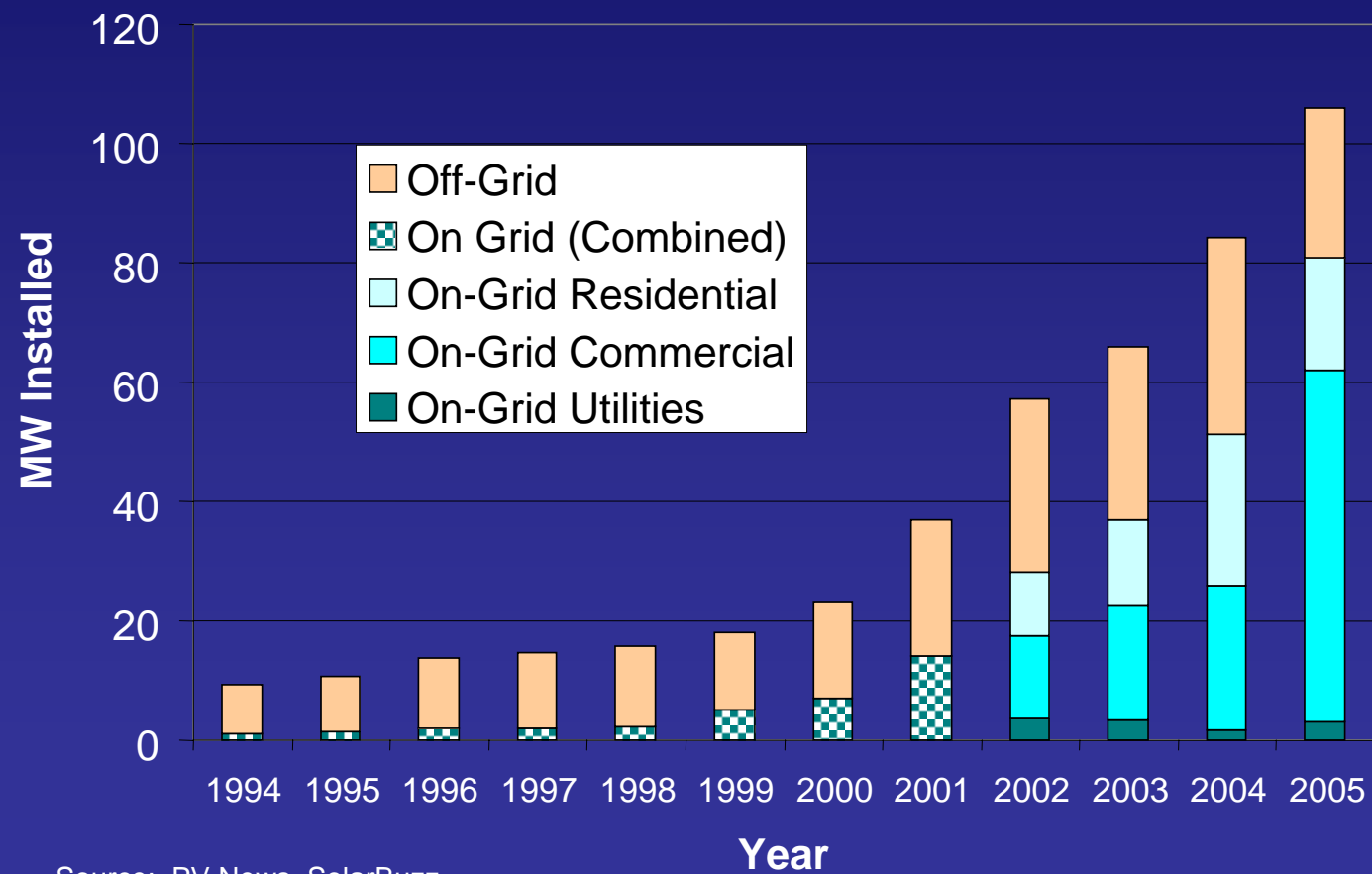
Incentive \$0.14-20 kWh



US Market Growth by Segment



US PV Market, 1994-2005



Source: PV News, SolarBuzz



US On-Grid Market

Projected 2006 Grid-tied PV

State	Capacity (MW-dc)
California	63.5
New Jersey	11.6
New York	2.3
Arizona	1.7
Colorado	0.9
Texas	0.7
Massachusetts	0.5
Nevada	0.5
Oregon	0.3
Connecticut	0.3

Source: Larry Sherwood; IREC; Prometheus Institute





State by State Summary



State	Status	Market Size 2017	Starts
Arizona	Revamping program now, should be ready middle of 2006	1,400 MWs	2007
California	CSI expansion, declining incentives	3,200 MWs	2006
Connecticut	Existing, subsidy underutilized, 2 MW per year	15 MWs	Current
Colorado	Passed RPS, rules in place	50 MWs	2006
DC	Passed RPS, putting rules in place by mid 2006	30 MWs	2006
Florida	FPL/Green Mountain program – 350 kW per year, New state program proposed	2 MWs	2006
Hawaii	High electricity prices, smaller systems, need tax credit investor	15 MWs	Current
Nevada	Existing, slight program improvements ongoing	120 MWs	Current

Source: SunEdison, SEIA

www.seia.org



State by State Summary



State	Status	Market Size 2017	Starts
New Jersey	Existing, significant program expansion expected in 2006	1,500 MWs	Current
New York	Passed RPS, putting rules in place by end of 2006	25 MWs	2007
Pennsylvania	Passed RPS, putting rules in place by end of 2006	750 MWs	2007
Rhode Island	Existing, rebates are changing	5 MWs	Current
Texas – Austin	Small systems, launching larger program by the end of 2006	100 MWs	2007
AK, DE, IL, MA, MN, NC, OH, MI, ME, MA, MT, OR, VT	Existing programs, generally small. Need some work on interconnection, net metering, customer awareness, low rebates, etc.	300 MWs	2007+
Totals	6,000 MWs either passed or being negotiated in next 12 months.	~7,300	

Source: SunEdison, SEIA

www.seia.org



California Solar Initiative



- 11-year program, \$3.2 billion
- CPUC Commercial and Existing Residential Buildings Program (CERB)
 - \$2.8 billion
 - Fund 2,800 MW
 - 1-kWp to 1-MWp
 - Rebates start at \$2.80/w
 - Decrease by 10%/year - will vary
 - Hybrid PBI program
 - 50% rebate
 - 50% performance based incentive
- CEC Residential New Construction Comp - 2007
 - \$350 million
 - New residential single and multi-family homes
 - Set aside for affordable housing
 - Emerging Renewables Program will continue



EPAct 2005



- First residential tax credit in 20 years
 - 30%, capped at \$2,000
 - Available for PV and DSWH
 - Two years only



- Expands commercial credit
 - 30%, no cap
 - Two years only



- 150 MW Federal procurement program



- Financing programs
 - Clean and renewable energy bonds
 - Federal loan guarantees



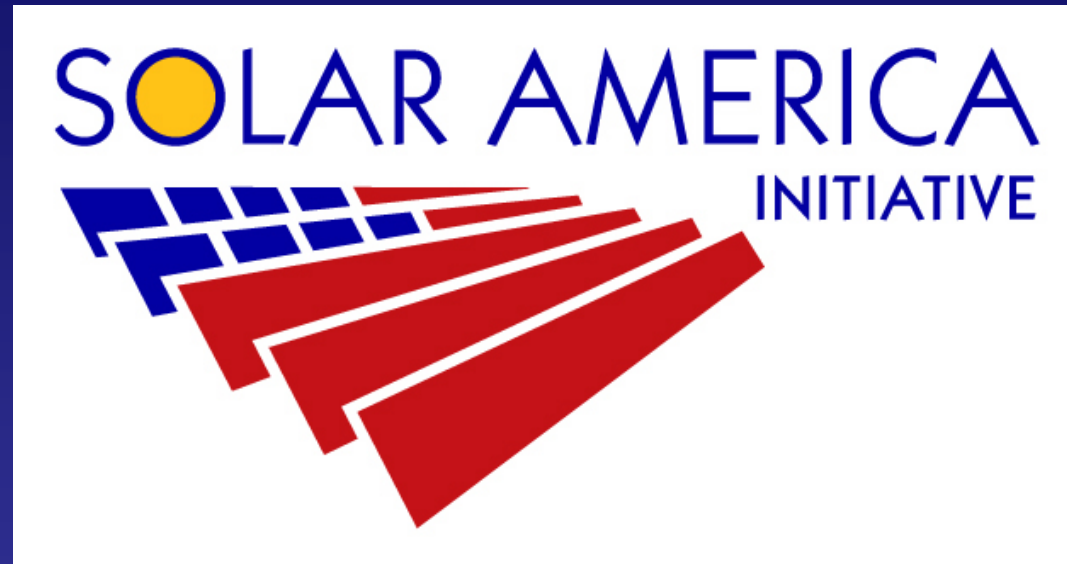
- Increases solar R&D to \$250 million annually

Source: SEIA





Presidential Initiative



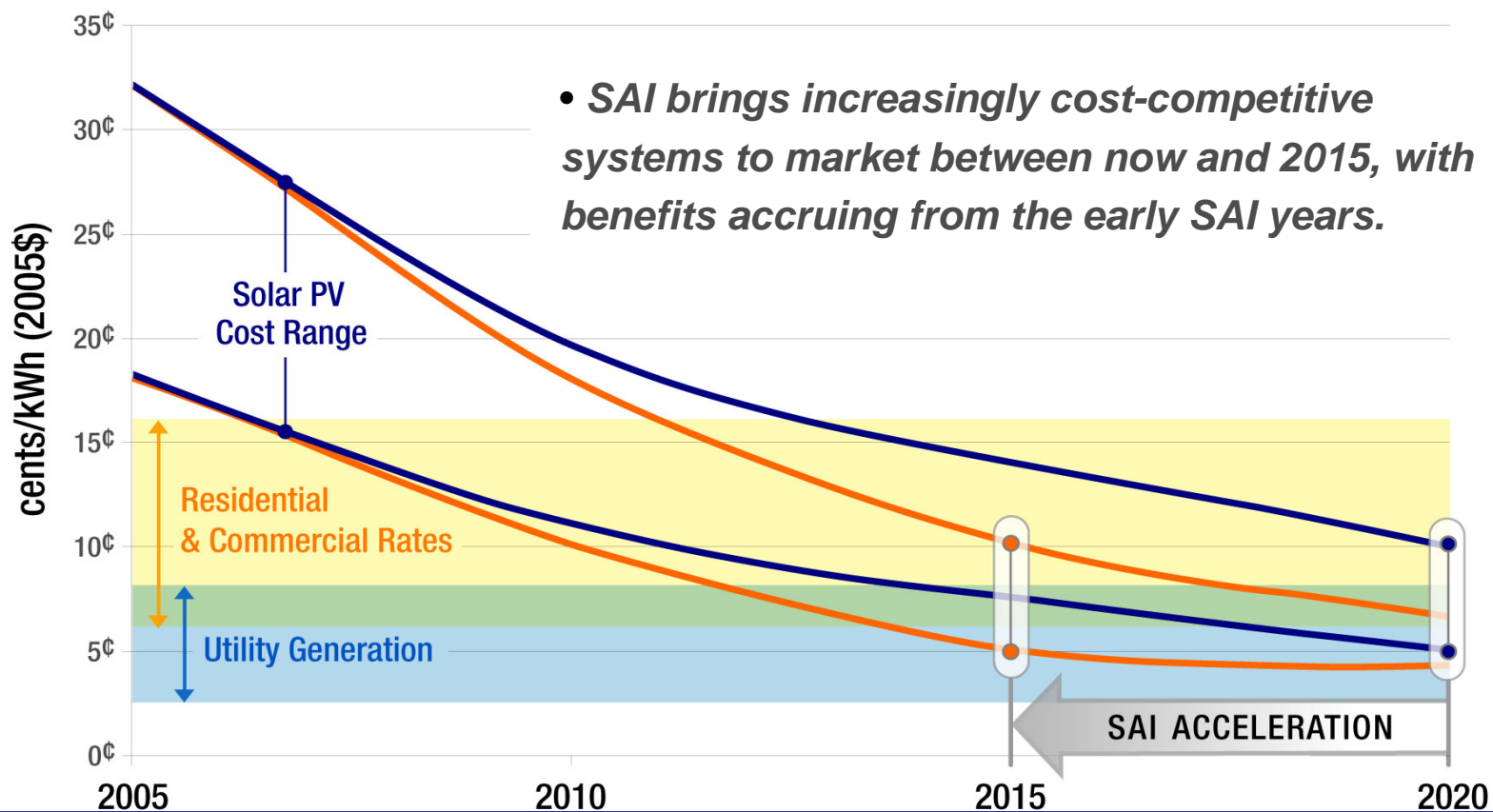
The mission of the Solar America Initiative is to achieve cost-competitive solar energy technologies by 2015 across all market sectors.



When will SAI impact PV markets?

Program Impact Starts Soon and Increases With Time

Projected Cost Reductions for Solar PV



Market Sector	Current U.S. Market Price Range (¢/kWh)	Cost (¢/kWh) Benchmark 2005	Cost (¢/kWh) Target 2010	Cost (¢/kWh) Target 2015
Residential	5.8-16.7	23-32	13-18	8-10
Commercial	5.4-15.0	16-22	9-12	6-8
Utility	4.0-7.6	13-22	10-15	5-7



Forecast Scenarios

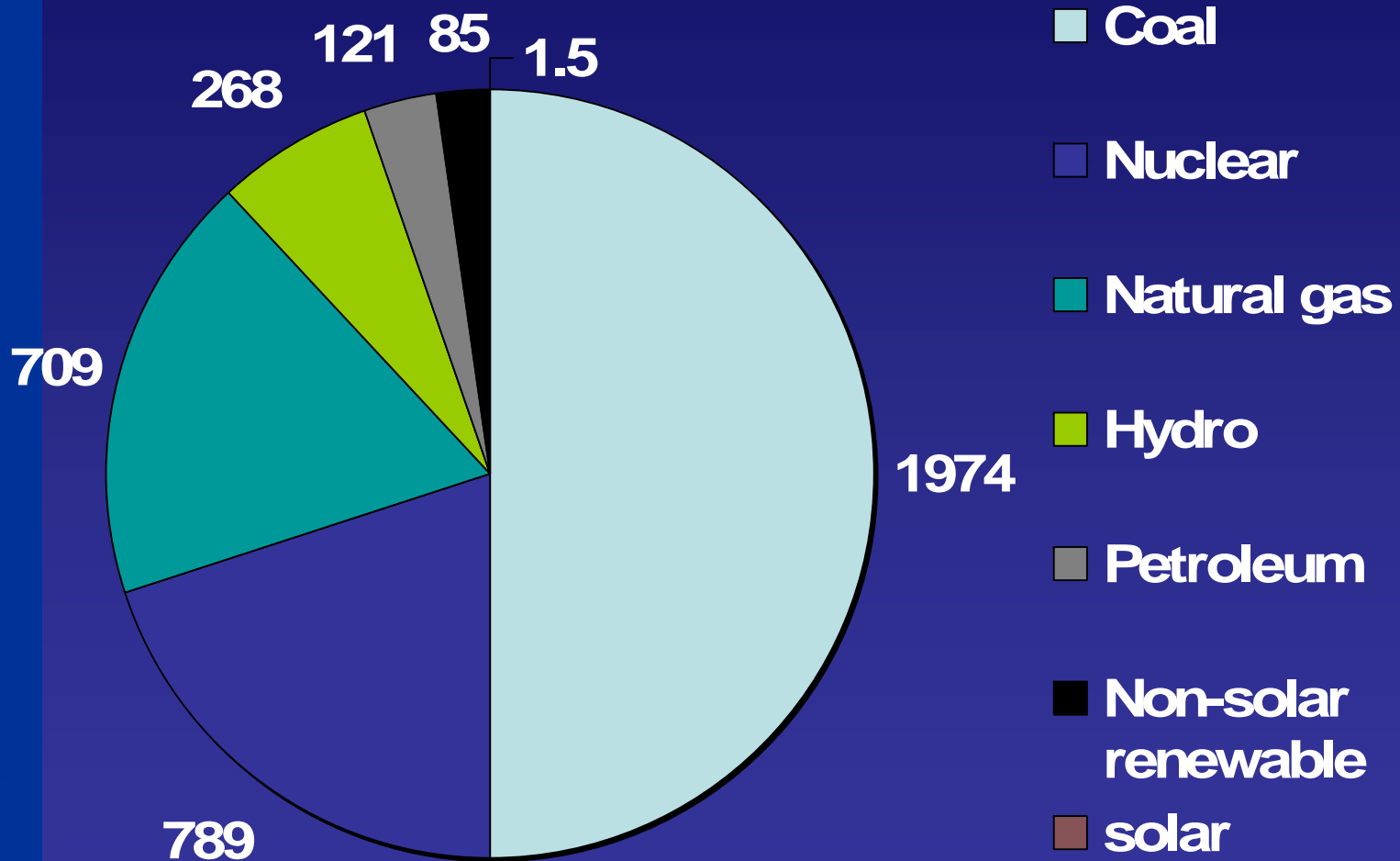
- PV Distributed Generation
 1. Historic 20 Year 23% CAGR
 2. Global 6 year 40% CAGR
 3. German 5 year 67% CAGR





Electricity Generation in U.S.

Solar is 1/30th of 1% of electricity generation



In billion kilowatt hours

Source: EIA AEO 2006

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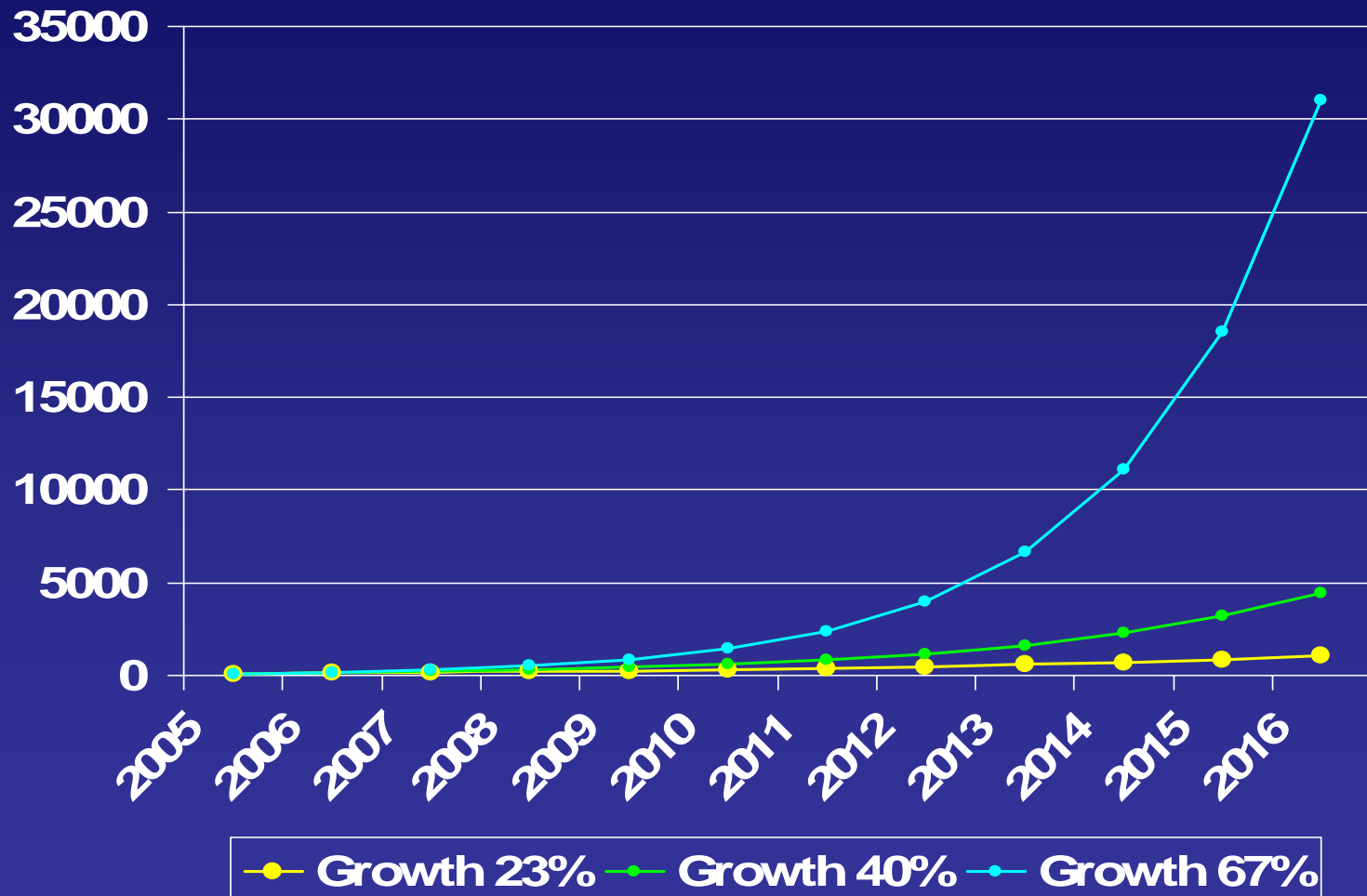




Forecasted Growth of PV in US



MW Installed

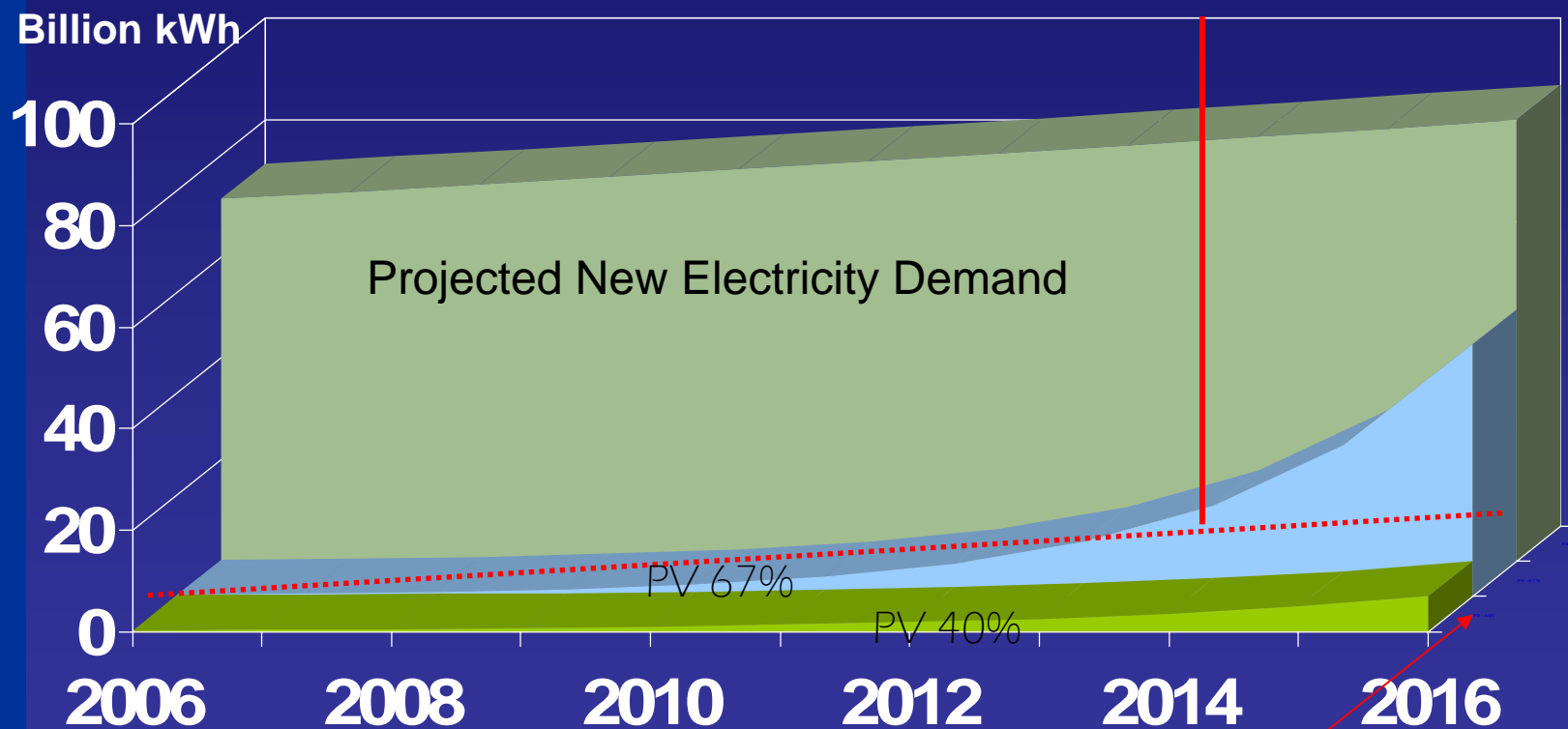




PV's Contribution to New Electricity



Solar reaches 15%
8,000 MW/Yr



PV reaches 8%
5,000 MW/Yr



What's Next for the US Market



- Invest in solar at national level
 - Extend the Federal Investment Tax Credit for commercial and residential solar to a minimum of 8 years
 - Expand the residential tax credit to \$3/watt
 - Provide AMT relief
- Expand and support state programs
 - AZ - expansion of RPS
 - TX - solar carve out in RPS
- Remove market barriers nationwide
 - Utilize consistent interconnection standards
 - Provide net metering
 - Encourage solar-friendly rate structures
 - Facilitate REC ownership and exchanges
 - Remove restrictive covenants
- Expand R&D Funding
 - \$250 million by 2012
- Educate the public